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SEQUENCE LISTING

5 <110> Baum, Peter
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 Youakim, Adel
 Hasel, Karl W
 Hilbush, Brian S

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 101 acctgggttt cgacttgtga agcttgagg tggatgtggg aattggcttg
 151 gagtcatagg cgatgagagg gacattagga tattatgaag cccgtgaact
 201 caactcctga gaaggacaca gcagagcgag agaaaagatg gaataaaaag
 55 251 gcctacctca ttgggtctct gtgggtgagg agaactgaag agtctgagag
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 401 ctcaggcaat ggggggtggct taaaggcact ctacagtgtg cagatgcctt
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 60 501 tcagaacaga gctgagtgc gaaatgaaaa tctatggctc tgtgtccaa
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5 601 aaaatctgtc cttggcccaa tgtgtaaaca cttgctgagg aacttggaat
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 35 gtcattggaga tcctcaatgt cacgctgggt ccctacggaa acgcacagga acaaaatgtc 360
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<210> 27

<211> 32

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50 <213> Homo sapiens

<400> 27

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Arg Ile Asp Leu Cys Val Ser Pro Asn Lys Leu Thr Tyr Ser Pro Lys
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<211> 98

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<213> Homo sapiens

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Glu Phe Gly Thr Arg Gln Gln Gln Gln Lys Lys Thr Glu His Leu
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10 His Ile Thr Asp Thr Gln Phe Lys Lys Gln Asn Ile Thr Ala Pro Ser
 35 40 45

15 Arg Ile Phe Leu Gly Ser Leu Pro Ser Leu Leu Thr Pro Asp Tyr Lys
 50 55 60

Gln Pro Pro Pro Ile Ser Pro Asp Ile Val Leu Tyr Glu Ser Ser Ser
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20 Ser Gln Met Gly Leu Phe Cys Pro Leu Gly Thr Leu Gly Ser Ile Trp
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Arg His

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<211> 663

<212> PRT

30 <213> Homo sapiens

<400> 29

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35 Ser Leu Ile Leu Glu Lys Ser Gln Asn Trp Ser Ser Gln Lys Met Asp
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40 His Ile Leu Ile Cys Cys Val Cys Leu Gly Asp Asn Ser Glu Asp Ala
 35 40 45

Asp Glu Ile Ile Gln Cys Asp Asn Cys Gly Ile Thr Val His Glu Gly
 50 55 60

45 Cys Tyr Gly Val Asp Gly Glu Ser Asp Ser Ile Met Ser Ser Ala Ser
 65 70 75 80

Glu Asn Ser Thr Glu Pro Trp Phe Cys Asp Ala Cys Lys Cys Gly Val
 85 90 95

50 Ser Pro Ser Cys Glu Leu Cys Pro Asn Gln Asp Gly Ile Phe Lys Glu
 100 105 110

55 Thr Asp Ala Gly Arg Trp Val His Ile Val Cys Ala Leu Tyr Val Pro
 115 120 125

Gly Val Ala Phe Gly Asp Ile Asp Lys Leu Arg Pro Val Thr Leu Thr
 130 135 140

60 Glu Met Asn Tyr Ser Lys Tyr Gly Ala Lys Glu Cys Ser Phe Cys Glu
 145 150 155 160

Asp Pro Arg Phe Ala Arg Thr Gly Val Cys Ile Ser Cys Asp Ala Gly
 165 170 175
 5 Met Cys Arg Ala Tyr Phe His Val Thr Cys Ala Gln Lys Glu Gly Leu
 180 185 190
 Leu Ser Glu Ala Ala Ala Glu Glu Asp Ile Ala Asp Pro Phe Phe Ala
 195 200 205
 10 Tyr Cys Lys Gln His Ala Asp Arg Leu Asp Arg Lys Trp Lys Arg Lys
 210 215 220
 Asn Tyr Leu Ala Leu Gln Ser Tyr Cys Lys Met Ser Leu Gln Glu Arg
 15 225 230 235 240
 Glu Lys Gln Leu Ser Pro Glu Ala Gln Ala Arg Ile Asn Ala Arg Leu
 245 250 255
 20 Gln Gln Tyr Arg Ala Lys Ala Glu Leu Ala Arg Ser Thr Arg Pro Gln
 260 265 270
 Ala Trp Val Pro Arg Glu Lys Leu Pro Arg Pro Leu Thr Ser Ser Ala
 275 280 285
 25 Ser Ala Ile Arg Lys Leu Met Arg Lys Ala Glu Leu Met Gly Ile Ser
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 Thr Asp Ile Phe Pro Val Asp Asn Ser Asp Thr Ser Ser Ser Val Asp
 30 305 310 315 320
 Gly Arg Arg Lys His Lys Gln Pro Ala Leu Thr Ala Asp Phe Val Asn
 325 330 335
 35 Tyr Tyr Phe Glu Arg Asn Met Arg Met Ile Gln Ile Gln Glu Asn Met
 340 345 350
 Ala Glu Gln Lys Asn Ile Lys Asp Lys Leu Glu Asn Glu Gln Glu Lys
 355 360 365
 40 Leu His Val Glu Tyr Asn Lys Leu Cys Glu Ser Leu Glu Glu Leu Gln
 370 375 380
 Asn Leu Asn Gly Lys Leu Arg Ser Glu Gly Gln Gly Ile Trp Ala Leu
 45 385 390 395 400
 Leu Gly Arg Ile Thr Gly Gln Lys Leu Asn Ile Pro Ala Ile Leu Arg
 405 410 415
 50 Ala Pro Lys Glu Arg Lys Pro Ser Lys Lys Glu Gly Gly Thr Gln Lys
 420 425 430
 Thr Ser Thr Leu Pro Ala Val Leu Tyr Ser Cys Gly Ile Cys Lys Lys
 435 440 445
 55 Asn His Asp Gln His Leu Leu Leu Leu Cys Asp Thr Cys Lys Leu His
 450 455 460
 Tyr His Leu Gly Cys Leu Asp Pro Pro Leu Thr Arg Met Pro Arg Lys
 60 465 470 475 480

Thr Lys Asn Ser Tyr Trp Gln Cys Ser Glu Cys Asp Gln Ala Gly Ser
 485 490 495
 Ser Asp Met Glu Ala Asp Met Ala Met Glu Thr Leu Pro Asp Gly Thr
 500 505 510
 Lys Arg Ser Arg Arg Gln Ile Lys Glu Pro Val Lys Phe Val Pro Gln
 515 520 525
 Asp Val Pro Pro Glu Pro Lys Lys Ile Pro Ile Arg Asn Thr Arg Thr
 530 535 540
 Arg Gly Arg Lys Arg Ser Phe Val Pro Glu Glu Glu Lys His Glu Glu
 545 550 555 560
 Arg Val Pro Arg Glu Arg Arg Gln Arg Gln Ser Val Leu Gln Lys Lys
 565 570 575
 Pro Lys Ala Glu Asp Leu Arg Thr Glu Cys Ala Thr Cys Lys Gly Thr
 580 585 590
 Gly Asp Asn Glu Asn Leu Val Arg Cys Asp Glu Cys Arg Leu Cys Tyr
 595 600 605
 His Phe Gly Cys Leu Asp Pro Pro Leu Lys Lys Ser Pro Lys Gln Thr
 610 615 620
 Gly Tyr Gly Trp Ile Cys Gln Glu Cys Asp Ser Ser Ser Ser Lys Glu
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 Glu Gln Lys Asn Pro Lys Lys
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 20 25 30
 Asp Ser Asn Met Lys Arg Glu Gln Pro Arg Glu Arg Pro Arg Ala Trp
 35 40 45
 Asp Tyr Pro His Gly Leu Val Gly Leu His Asn Ile Gly Gln Thr Cys
 50 55 60
 Cys Leu Asn Ser Leu Ile Gln Val Phe Val Met Asn Val Asp Phe Thr
 65 70 75 80
 Arg Ile Leu Lys Arg Ile Thr Val Pro Arg Gly Ala Asp Glu Gln Arg
 85 90 95

Arg Ser Val Pro Phe Gln Met Leu Leu Leu Leu Glu Lys Met Gln Asp
 100 105 110
 5 Ser Arg Gln Lys Ala Val Arg Pro Leu Glu Leu Ala Tyr Cys Leu Gln
 115 120 125
 Lys Cys Asn Val Pro Leu Phe Val Gln His Asp Ala Ala Gln Leu Tyr
 130 135 140
 10 Leu Lys Leu Trp Asn Leu Ile Lys Asp Gln Ile Thr Asp Val His Leu
 145 150 155 160
 Val Glu Arg Leu Gln Ala Leu Tyr Met Ile Arg Val Lys Asp Ser Leu
 165 170 175
 15 Ile Cys Val Asp Cys Ala Met Glu Ser Ser Arg Asn Ser Ser Met Leu
 180 185 190
 20 Thr Leu Pro Leu Ser Leu Phe Asp Val Asp Ser Lys Pro Leu Lys Thr
 195 200 205
 Leu Glu Asp Ala Leu His Cys Phe Phe Gln Pro Arg Glu Leu Ser Ser
 210 215 220
 25 Lys Ser Lys Cys Phe Cys Glu Asn Cys Gly Lys Lys Thr Arg Gly Lys
 225 230 235 240
 Gln Val Leu Lys Leu Thr His Leu Pro Gln Thr Leu Thr Ile His Leu
 245 250 255
 30 Met Arg Phe Ser Ile Arg Asn Ser Gln Thr Arg Lys Ile Cys His Ser
 260 265 270
 35 Leu Tyr Phe Pro Gln Ser Leu Asp Phe Ser Gln Ile Leu Pro Met Lys
 275 280 285
 Arg Glu Ser Cys Asp Ala Glu Glu Gln Ser Gly Gly Gln Tyr Glu Leu
 290 295 300
 40 Phe Ala Val Ile Ala His Val Gly Met Ala Asp Ser Gly His Tyr Cys
 305 310 315 320
 Val Tyr Ile Arg Asn Ala Val Asp Gly Lys Trp Phe Cys Phe Asn Asp
 325 330 335
 45 Ser Asn Ile Cys Leu Val Ser Trp Glu Asp Ile Gln Cys Thr Tyr Gly
 340 345 350
 50 Asn Pro Asn Tyr His Trp Gln Glu Thr Ala Tyr Leu Leu Val Tyr Met
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 Lys Met Glu Cys
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 55 <210> 31
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5 Phe Ile Leu Glu Ser Asn Leu Thr Asn Val Met Lys Val Val Arg Leu
 20 25 30

Phe Ile Lys Cys Pro Cys Leu Trp Gly His Glu Lys Ile His Thr Glu
 35 40 45

10 Ser Ile Lys Asn Val Leu Asn Met Glu Arg Pro Leu Ser Asn Ser Asp
 50 55 60

Val Met Lys Val Val Val Phe
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<400> 32

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35

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<210> 33

<211> 302

<212> PRT

55 <213> Homo sapiens

<400> 33

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Lys Asp Gly His Pro Leu Thr Ser Ser Leu Lys Ile Pro Thr Ala Ser

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5	Met Leu Pro Ile Phe Gln Gly Leu Leu Cys Phe Trp Ser Pro Gly Asn		
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10	Arg Cys Cys Leu Glu Leu Trp Arg Glu Gly Phe His Pro Ala Pro Thr		
	65	70	75
	Ile Pro Leu Leu Phe His Thr Leu Ala Cys Gly Trp Ser Leu Thr Gly		
	85	90	95
15	Leu Val Arg Val Ala Cys Asp Leu Arg Leu Leu Val Pro Gly His Phe		
	100	105	110
	Trp Asn Phe Gly Lys Met Cys Cys Phe Ala Ser Gly Arg Leu Tyr Leu		
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20	Val Ala Gly Thr Leu Cys Pro Gln His Thr Phe Phe Cys Asp Ser Arg		
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25	Gln Lys Gly Gln Met Gln Lys Gln Asn Gly Gly Lys Ala Val Asp Glu		
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	Arg Gln Leu Phe His Gly Thr Ser Ala Ile Phe Val Asp Ala Ile Cys		
	165	170	175
30	Gln Gln Asn Phe Asp Trp Arg Val Cys Gly Val His Gly Thr Ser Tyr		
	180	185	190
	Gly Lys Gly Ser Tyr Phe Ala Arg Asp Ala Ala Tyr Ser His His Tyr		
	195	200	205
35	Ser Lys Ser Asp Thr Gln Thr His Thr Met Phe Leu Ala Arg Val Leu		
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40	Val Gly Glu Phe Val Arg Gly Asn Ala Ser Phe Val Arg Pro Pro Ala		
	225	230	235
	Lys Glu Gly Trp Ser Asn Ala Phe Tyr Asp Ser Cys Val Asn Ser Val		
	245	250	255
45	Ser Asp Pro Ser Ile Phe Val Ile Phe Glu Lys His Gln Val Tyr Pro		
	260	265	270
	Glu Tyr Val Ile Gln Tyr Thr Thr Ser Ser Lys Pro Ser Val Thr Pro		
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50	Ser Ile Leu Leu Ala Leu Gly Ser Leu Phe Ser Ser Arg Gln		
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 Gln His Gly Glu Glu Glu Cys Lys Phe Asn Lys Val Glu Ala Cys Val
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 Tyr Ala Pro Gly Leu Ser Pro Asp Thr Ile Met Glu Cys Ala Met Gly
 180 185 190
 45 Asp Pro Gly Met Gln Leu Met His Ala Asn Ala Gln Arg Thr Asp Ala
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 Leu Gln Pro Pro His Glu Tyr Val Pro Trp Val Thr Val Asn Gly Lys
 210 215 220
 50 Pro Leu Glu Asp Gln Thr Gln Leu Leu Thr Leu Val Cys Gln Leu Tyr
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